DOCUMENT RESUME

ED 217 634 EC 142 719

AUTHOR Deshler, Donald D.; And Others
TITLE An Epidemiological Study of Learning Disabled Adolescents in Secondary Schools: Social Status, Peer Relationships, Activities In and Out of School, and Time Use.
INSTITUTION Kansas Univ., Lawrence, Inst. for Research in Learning Disabilities.
SPONS AGENCY Bureau of Education for the Handicapped (DHEW/OE), Washington, D.C.
REPORT NO IRLD-RR-18
PUB DATE Jan 80
CONTRACT 300-77-0494
NOTE 43p.; For related documents, see EC 142 714-721.

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Adolescents; *Behavior Patterns; *Interaction; *Learning Disabilities; Leisure Time; *Low Achievement; *Peer Relationship; Questionnaires; *School Activities; Secondary Education; Social Status

ABSTRACT

The study, part of a series on learning disabled (LD) adolescents, was designed to examine the differences between LD (N=234), low achieving (LA, N=222), and normal achieving (NA, N=215) students on various indices of social interactions and activities in secondary school settings. Study instruments contained questions relating to peer relationships, involvement in school and out of school nonacademic activities, and time use. LD and LA students were less involved in completing school work at home or in school activities; and more apt to spend time alone entertaining themselves, watching television, or hanging around the neighborhood than NA students. Findings indicated that LD adolescents are not social isolates, but they appear to be treated the same as their peers who also experienced difficulties in school. Tables with statistical data related to questionnaire responses are included. (SB)

**********
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
**********

ED217634

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.

Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

INSTITUTE FOR RESEARCH IN LEARNING DISABILITIES
The University of Kansas
Lawrence, Kansas, 66045
*Emphasis on Adolescents and Young Adults*

# AN EPIDEMIOLOGICAL STUDY OF LEARNING DISABLED ADOLESCENTS IN SECONDARY SCHOOLS: SOCIAL STATUS, PEER RELATIONSHIPS, ACTIVITIES IN AND OUT OF SCHOOL, AND TIME USE

Donald D. Deshler, Jean B. Schumaker,
Michael M. Warner, Gordon R. Alley
and Frances L. Clark

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Donald D. Deshler
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

EC142719

Research Report No. 18

January, 1980

The University of Kansas Institute for Research in Learning Disabilities is supported by a contract (#300-77-0494) with the Bureau of Education for the Handicapped, Department of Health, Education, and Welfare, U. S. Office of Education, through Title VI-G of Public Law 91-230. The University of Kansas Institute, a joint research effort involving the Department of Special Education and the Bureau of Child Research, has specified the learning disabled adolescent and young adult as the target population. The major responsibility of the Institute is to develop effective means of identifying learning disabled populations at the secondary level and to construct interventions that will have an effect upon school performance and life adjustment. Many areas of research have been designed to study the problems of LD adolescents and young adults in both school and non-school settings (e.g., employment, juvenile justice, military, etc.)

Co-Directors: Edward L. Meyen
Richard L. Schiefelbusch

Research Coordinator: Donald D. Deshler

Associate Coordinator: Jean B. Schumaker

Institute for Research in Learning Disabilities
The University of Kansas
313 Carruth-O'Leary Hall
Lawrence, Kansas 66045

The preparation of this document was supported by a government contract. The views expressed here are those of the Institute, and do not necessarily reflect official positions of the Bureau of Education for the Handicapped, DHEW, USOE.

AN EPIDEMIOLOGICAL STUDY OF LEARNING DISABLED ADOLESCENTS IN SECONDARY SCHOOLS


## Abstract

In recent years, professionals in the field of learning disabilities have begun to address the impact of learning disabilities on adolescents and young adults. Although substantial attention has been directed to the manifestations of learning disabilities in elementary school age populations, the significantly different and increasingly complex demands on adolescents both in and out of school necessitate the development of systematic research on this population. The University of Kansas Institute for Research in Learning Disabilities has collected a broad array of data to form an epidemiological data base on LD adolescents and young adults. Data have been collected from learning disabled, low-achieving, and normal-achieving adolescents as well as from their parents and teachers. In addition, information from the environmental setting of the LD adolescents which pertains to interventions applied on behalf of the student, relationships with others, conditions under which he/she operates and support systems available for his/her use has also been collected. These data have been considered in relation to data on specific learner characteristics to gain a more complete profile of the older LD individual.

Research results presented in Research Reports 12 through 20 detail findings from this comprehensive epidemiology study conducted during 1979-80 by the Institute. It is important for the reader to study and view each of these individual reports in relation to this overall line of research. An understanding of the complex nature of the learning disability condition only begins to emerge when each specific topic or finding is seen as a partial, but important, piece of a larger whole.

The specific aspects of the total study presented in individual Research Reports are listed below:

| | |
|---|---|
| Research Report No. 12: | Details of the Methodology |
| Research Report No. 13: | Achievement and Ability, Socioeconomic Status, and School Experiences |
| Research Report No. 14: | Academic Self-Image and Attributions |

Research Report No. 15: Health and Medical Factors

Research Report No. 16: Behavioral and Emotional Status from the Perspective of Parents and Teachers

Research Report No 17: The Relationship of Family Factors to the Condition of Learning Disabilities

Research Report No. 18: Social Status, Peer Relationship, Activities In and Out of School, and Time Use

Research Report No. 19: Support Services

Research Report No. 20: Classification of Learning Disabled and Low-Achieving Adolescents

## Cooperating Agencies

Were it not for the cooperation of many agencies in the public and private sector, the research efforts of The University of Kansas Institute for Research in Learning Disabilities could not be conducted. The Institute has maintained an on-going dialogue with participating school districts and agencies to give focus to the research questions and issues that we address as an Institute. We see this dialogue as a means of reducing the gap between research and practice. This communication also allows us to design procedures that: (a) protect the LD adolescent or young adult, (b) disrupt the on-going program as little as possible, and (c) provide appropriate research data.

The majority of our research to this time has been conducted in public school settings in both Kansas and Missouri. School districts in Kansas which are participating in various studies include: United School District (USD) 384, Blue Valley; USD 500, Kansas City; USD 469, Lansing; USD 497, Lawrence; USD 453, Leavenworth; USD 233, Olathe; USD 305, Salina; USD 450, Shawnee Heights; USD 512, Shawnee Mission, USD 464, Tonganoxie; USD 202, Turner; and USD 501, Topeka. Studies are also being conducted in Center School District and the New School for Human Education, Kansas City, Missouri; the School District of St. Joseph, St. Joseph, Missouri; Delta County, Colorado School District; Montrose County, Colorado School District; Elkhart Community Schools, Elkhart, Indiana; and Beaverton School District, Beaverton, Oregon. Many Child Service Demonstration Centers throughout the country have also contributed to our efforts.

Agencies currently participating in research in the juvenile justice system are the Overland Park, Kansas Youth Diversion Project and the Douglas, Johnson, and Leavenworth County, Kansas Juvenile Courts. Other agencies have participated in out-of-school studies--Achievement Place and Penn House of Lawrence, Kansas, Kansas State Industrial Reformatory, Hutchinson, Kansas; the U.S. Military; and the Job Corps. Numerous employers in the public and private sector have also aided us with studies in employment.

While the agencies mentioned above allowed us to contact individuals and supported our efforts, the cooperation of those individuals--LD adolescents and young adults; parents; professionals in education, the criminal justice system, the business community, and the military--have provided the valuable data for our research. This information will assist us in our research endeavors that have the potential of yielding greatest payoff for interventions with the LD adolescent and young adult.

# AN EPIDEMIOLOGICAL STUDY OF LEARNING DISABLED ADOLESCENTS IN SECONDARY SCHOOLS:

## SOCIAL STATUS, PEER RELATIONSHIPS, ACTIVITIES IN AND OUT OF SCHOOL, AND TIME USE

Since the inception of the learning disability field in the early 1960s, emphasis for treatment and intervention has been on younger children. Only recently has attention been turned to addressing the educational and life adjustment needs of adolescents and young adults as well (Alley & Deshler, 1979). A prerequisite step to developing sound instructional systems and procedures for the older-aged learning disabled is for the field to achieve a thorough understanding of the complex nature of the condition of learning disabilities in older populations.

There are some unique problems related to adolescents with learning disabilities (LD) which have not been adequately addressed within the research on learning disabilities in elementary populations. Among these are the following. The demands of the curriculum in secondary schools or job requirements in employment settings are significantly different from the demands placed on LD students in elementary settings. Thus, the manifestations of the specific learning disability may be altered. Second, there are many variables associated with the condition of learning disabilities. It would appear that the complexity and interaction of these increase as the adolescent moves from school to non-school settings and as the number and variety of his/her social groupings increase (Deshler, 1978). Thirdly, there is very little knowledge

about the conditions confronting the LD adolescent and young adult in non-school settings and the degree to which these individuals can cope with these circumstances.

The complex nature of the condition of learning disabilities and the unique features of the conditions and the environment facing the LD adolescent and young adult demonstrate the need for systematic research on this population. Therefore, the purpose of a major line of research conducted by The University of Kansas Institute for Research in Learning Disabilities has been to collect a broad array of data to form an epidemiological data base on older LD populations. Data have been collected from the environmental setting of the LD adolescent which pertain to interventions applied on behalf of the student, conditions under which he/she operates, and support systems available for his/her use. These data have been considered in relation to data on specific learner characteristics to gain a more complete profile of the older LD individual.

Research results presented in Research Reports 12 through 20 detail findings from this comprehensive epidemiology study conducted during 1979-80 by the Institute. It is important for the reader to study and view each of these individual reports in relation to this overall line of research. An understanding of the complex nature of the learning disability condition only begins to emerge when each specific topic or finding is seen as a partial, but important, piece of a larger whole. This specific research report will present findings on the family conditions surrounding learning disabled adolescents in secondary schools.

In the past several years there has been a great deal of interest shown by practitioners and researchers in the social interactions and activities of mildly handicapped individuals. Zigmond (1980) cited several reasons for this increased emphasis on social skills: (a) by the time students reach adolescence, training in academic skills has limited pay off (Drake & Cavanaugh, 1970), (b) ameliorating social deficits may allow students to better profit from other educational experiences (Zigmond, 1978), (c) training in social skills can facilitate student placement in mainstreamed settings (Laurie, Buchwach, Silverman, & Zigmond, 1978), and (d) improvement in social skills is likely to increase student's employability (Irvine, Goodman, & Mann, 1978; Fawcett & Mathews, 1980).

Most research on social interactions and activities with learning disabled populations is available on elementary aged students (Bryan, 1974; Bryan, 1978; Bryan, Wheeler, Felcan, & Henek, 1978; Bruininks, 1978). This research has documented the hypothesis that LD children are likely to be the objects of their peers' social rejection. Bryan (1974), for example, found that LD white females were likely to be rejected by their classmates when rejection was assessed with sociometric measures. Similarly, Siperstein, Bopp, and Bak (1977) and Bruininks (1978) also found learning disabled students to be rejected by their peers. Bryan and Bryan (1978) have delineated specific factors that may account for the rejection experienced by the learning disabled students. Specifically, comunications to and from learning disabled students tended to be nastier in rejection categories. Most of these research efforts,

however, have compared LD populations with normal populations, not other handicapped or low-achieving populations.

Contrary to literature contributions on elementary LD populations, most writings on social skills for LD adolescents are not data based (Kronick, 1978; Alley & Deshler, 1979; Silverman & Zigmond, 1977). A common assumption underlying most of these writings is that a major, distinguishing characteristic of older-aged LD populations is a broad array of deficient social skills, such as social rejection, isolation and ineptitude. Furthermore, these writings often assume that addressing such deficits through intervention programs is central to impacting not only the life adjustment but academic success of LD adolescents. An essential prerequisite step to designing social skill intervention procedures for LD adolescents is to determine if this population is in fact deficit on salient characteristics that would be the basis of social skill interventions.

"Social skills" is a generic term used to mean the composite of abilities necessary for interpersonal functioning. As used in this study social skills have been operationally defined under three factors: peer relationships, involvement in in-school and out-of-school nonacademic activities, and time use. Data sources for these three social skill areas were students, parents, and regular classroom teachers.

The purpose of this study was to determine if there were differences between learning disabled adolescents and low-achieving adolescents on various indicies of social interactions and activities in secondary school settings. A related purpose of this study

was to determine the social interaction and activity of a contrast group of normal students.

## Methodology

### Subjects

Three groups of adolescents and their parents participated in this part of the study. The adolescents included LD students, low-achieving students, and normal-achieving students in grades 7, 8, 9, 10, 11, and 12. LD students were those currently being served in programs for learning disabled students and validated by the IRLD Validation team. Low-achieving (LA) students were students who had recently received one or more failing grade in required subjects, scored below the 33rd percentile on group administered achievement tests, and who were not receiving special educational services. Normal-achieving (NA) students were those who had passing grades, scored above the 33rd percentile in achievement, and who were not receiving special educational services. The students and their parents agreed to participate in this study. For more details on student selection, see The University of Kansas Institute for Research in Learning Disabilities Research Report No. 12 (Schumaker, Warner, Deshler, & Alley, 1980). Two hundred thirty-four LD students and 162 of their parents, 222 low-achieving students and 144 of their parents, and 215 normal-achieving students[1] and 184 of their parents took part.

### Settings

Three school districts in northeast Kansas agreed to participate (USDs #500, #512, and #202). The students provided information for this study in small, quiet rooms selected by their schools. Parents

provided information at their leisure at home. (For more information regarding settings see Schumaker et al., 1980.)

Measurement Systems

Three assessment instruments, the Youth Instrument and the Parent Instrument, were utilized in this analysis. All these instruments were designed with a number of questions regarding peer relationships, involvement in school and out-of-school non-academic activities, and time use. A number of different answer formats were used in the questions. Some involved Likert-type scales, others involved multiple-choice answers, and still others allowed open-ended responding. (For more information about the instruments see Schumaker et al., 1980.)

Procedures

In individual sessions, the students were read the questions (and possible answers) by an interviewer. The students' responses were recorded on the instrument either by the interviewer or the student, at the student's choice. The parent instruments were either mailed or carried home by the students. Follow-up letters and phone calls prompted delayed returns.

Data Analysis

The Kansas University Institute for Research in Learning Disabilities Research Reports in which data from the first phase of the comprehensive Level I epidemiological study are numbered (including the present report) 12 through 20. A thorough discussion of the specific procedures used in data analysis for the complete study as a whole as well as the rationale for those procedures is contained in Research Report Number 12, Details of the Methodology (Schumaker et al., 1980). The following comments are condensed from that report.

In general, two types of variables are discussed in Research Reports 12-20: (a) individual items from the Youth, Parent, or Regular Teacher Assessment Instruments, or specific ability or achievement test scores and (b) FSCALES. The FSCALES were derived by equally weighting and averaging performance on two or more items from one of the assessment instruments. Based on a factor analysis of each assessment instrument, items were combined into an FSCALE if they had a moderate to strong loading on the same factor. A complete listing of the items which made up each FSCALE is contained in Research Report Number 12.

In order to test for significant group differences on individual assessment instrument items, test scores, or FSCALES, the following procedure was adopted. The BMDP7D computer program (Dixon, 1975) was used to conduct a univariate F test for each variable under consideration. For each variable, if the $p$ value associated with F was less than or equal to .01, confidence bands for each mean were constructed. Two standard errors of the mean ($SE = SD/\sqrt{n}$) were added and subtracted from each mean. If the confidence bands for a given pair of means did not overlap, the means were considered significantly different.[2]

## Results

Students classified as learning disabled (LD), low achieving (LA), and normal achieving (NA), their parents, and regular class teachers were asked a number of questions about peer relationships, involvement in in-school and out-of-school non-academic activities, and time use. The data for those variables in which a significant difference was found between at least one pair of subject groups

(LD and LA, LD and NA, LA and NA) are shown in tables 1-9. In each table are shown: (a) the question(s) asked and the possible answers, (b) the mean answer for each group, (c) the standard deviation for each group, (d) the number of persons responding, (e) the F value, (f) an indication of whether or not the confidence bands for each pair of groups overlapped. If the overlap indication is listed as "No", this means that there is no overlap between the means for a given pair of groups. Thus, there is a significant difference between the means for these two groups in the given pair. If the overlap indication is "yes", then there is overlap between the means and no significant difference was found between the members of the listed pairs. The data presented in all the tables represents data collected in both junior and senior high schools for the LD and LA groups and collected in a senior high school for the NA group. Data are not yet analyzed for the junior high normal achievers.

Peer Relationships

Of the fifteen variables related to peer relationships only two were found to separate LD from LA. Table 1 shows student responses to a question concerning how often they go somewhere with a friend who asks them. LD students report being asked less frequently (a mean of 4.47) than LA (a mean of 4.92) or NA (a mean of 4.74) students. On the ogher hand, on a similar question parents report that LD youths ask other students to go somewhere with him/her more frequently than LA or NA youths. These data are shown in Table 2.

---

Insert Tables 1 and 2 about here

---

Significant differences were found on four other variables related to peer relations, but the difference observed was between the NA group and the other two groups. In other words, these variables did not differentiate the LD from LA groups. LD and LA youths report spending more time "hanging around the neighborhood" (Table 3), "just hanging around with friends" (Table 4), and "having friends over to their house" (Table 5) than their normal achieving peers. Finally, LD and LA students report having younger friends than NA youths (Table 6).

---

Insert Tables 3, 4, 5, 6, and 7 about here

---

A number of variables yielded no significant differences between any of the group on peer relationships. These variables are shown in Table 7. To review specific questions asked refer to the actual instrument employed. These instruments are available from the Kansas Institute.

Non-Academic Activity Involvement

Fifteen variables measured the non-academic activity involvement of LD, LA and NA groups. Only one variable was significant in differentiating LD from LA students (sport spectating with friends). Table 8 presents student responses to this question. Ten variables

---

Insert Table 8 about here

---

however, were significant in differentiating the NA group from the LD and LA groups (although no significant differences were found be-

tween the LD and LA groups). These data show a general trend for LD and LA adolescents to engage in a limited number of extra curricular school activities. Table 9 reports LD and LA students participating in extra curricular activities less than once a month, whereas NA students participate in such activities on a weekly basis. Similarly, Tables 10 and 11 reflect the relatively limited involvement of LD and LA students in non-academic school activities. Table 10, for example, indicates that, on the average NA students spend almost three times as many hours per week engaged in extra curricular activities than LA and LD students. Tables 12 and 13 present data on out-of-school activities and reflect a similar pattern of involvement for the groups with the NA group being much more involved. LD and LA adolescents prefer to engage in non-academic activities, for example mechanical activities, (Table 14) than academic oriented ones such as pleasure reading (Table 15).

---

Insert Tables 11, 12, 13, 14, and 15 about here

---

Time Use

No variables were found to differentiate the LD and LA groups, however, six variables were sufficiently powerful to differentiate the NA group from the LD and LA groups. For senior high students, LD and LA students report that they spend signifcantly less time completing homework assignments than do NA students (Table 16). Parent reports related to time spent completing homework is similar to the students' reports. LD and LA students spend roughly 15-30 minutes each night completing homework while NA students spend 30-60

16

minutes (Table 17). Also evident from the data is a decrease from junior high to senior high in the amount of time LD students spend completing homework. Free time activities differentiating LD and LA students were staying at home to entertain yourself, watching television, and hanging around the neighborhood. LD and LA students more often spend time entertaining themselves at home than NA students (Table 18). The greatest difference occurs in the percentage of students who report that they seldom stay home and entertain themselves--LD students, 22%; LA, 31%; and NA, 14%. Both LD and LA students report more time spent watching television than do NA students (Table 19). For LD students, the mean amount of time spent watching TV was 2-3 hours per day, for LA students, 1-2 hours, and for NA students, 30-60 minutes. Parents reported that LD and LA students spend more time hanging around the neighborhood than NA students (Table 20). NA students spend significantly more time in school activities than do either LD or LA students (Table 21).

---

Insert Tables 16, 17, 18, 19, 20, and 21 about here

---

## Discussion

The results of this study suggest that in terms of social skills such as peer relationships, involvement in non-academic activities, and time use, few differences exist between LD students and other students experiencing difficulty in school (low achievers). Differences evident among these two populations were in activities with peers--both in initiating the activity and in being invited to go places with others.

It appears from these data that students experiencing difficulty in school, i.e., LD and LA students, can be differentiated from students who are achieving normally, but, on the basis of social skills alone, LD and LA students cannot be differentiated from each other. LD and LA students are less involved in completing school work at home or in school activities and more apt to spend time alone entertaining themselves, watching television, or hanging around the neighborhood and NA students.

These findings indicate that LD adolescents are not social isolates, but they appear to be treated the same as their peers who are also experiencing difficulties in school. On the information available, these two groups cannot be distinguished. LD and LA students are less involved in extra-curricular activities than their NA peers; however, other differences with their normal-achieving peers are not of large magnitude. These differences, while statistically significant, are not of practical significance.

Much of the research related to learning disabilities and social skills has been conducted with younger populations, primarily elementary school children. These data support Deshler's (1978) warning that care must be taken in generalizing the characteristics of elementary school age LD children to LD adolescents. While some difficulties exist with the measures used (self- and parent-report data) in this study, the direction of these findings questions the basic assumption held by many professionals of LD adolescents as more deficient in social skills than their peers.

## Footnotes

1This includes 60 normal-achieving junior high students for whom data have not been analyzed to date.

2Because of the large number of means that are being compared in the epidemiology study as a whole, it is likely that some of these will be "significantly" different on the basis of sampling error alone. A cross-validation study is currently under way in an attempt to substantiate differences found in Research Reports 13-20.

## References


Alley, G. R., & Deshler, D. D. Teaching the learning disabled adolescent: Strategies and methods. Denver: Love Publishing, Co., 1979.

Bruininks, V.L. Actual and Perceived peer status of learning disabled students in mainstream programs. The Journal of Special Education, 1978, 12, 51-58.

Bryan, T. Peer popularity of learning disabled children. Journal of Learning Disabilities, 1974, 7, 261-268.

Bryan, T. Social relationships and verbal interactions of learning disabled children in the classroom. Journal of Learning Disabilities, 1978, 11, 107-115.

Bryan, T. H., & Bryan, J. H. Social interactions of learning disabled children. Learning Disability Quarterly, 1978, 1, 33-38.

Bryan, T., Wheeler, R., Felcan, J., & Henek, T. "Come on Dummy": An observational study of children's communications. Journal of Learning Disabilities, 1978, 9, 661-669.

Deshler, D. D. psychoeducational aspects of learning disabled adolescents. In L. Mann, L. Goodman, & J. L. Wiederholt (Eds.), Teaching the learning disabled adolescent. Boston: Houghton-Mifflin, 1978.

Dixon, W. J. (Ed.) BMDP: Biomedical computer programs p-series. Berkeley, CA: University of California Press, 1975.

Drake, C., & Cavanaugh, J. A. Teaching the high school dyslexic. In L. E. Anderson (Ed.), Helping the adolescent with the hidden handicap. Belmont, CA.: Fearon, 1970.

Irvine, P., Goodman, L., & Mann, L. Occupational education. In L. Mann, L. Goodman, & J. L. Wiederholt (Eds.), Teaching the learning disabled adolescent. Boston: Houghton-Mifflin, 1978.

Kronick, D. An examination of Psychosocial aspects of learning disabled adolescents. Learning Disability Quarterly, 1978, 4, 86-93.

Laurie, T.F., Buchwach, L., Silverman, R., & Zigmond, N. Teaching secondary learning disabled adolescents in the mainstream. Learning Disability Quarterly, 1978, 4, 62-72.

Mathews, R.M., Whang, P. L., & Fawcett, S. B. Behavioral assessment of occupational skills of learning disabled adolescents (Research Report No. 5). Lawrence, Kansas: The University of Kansas Institute for Research in Learning Disabilities, 1980.

Schumaker, J. B., Warner, M.M., Deshler, D. D., & Alley, G. R. An epidemiological study of learning disabilties: Details of the Methodology (Research Report No. 12). Lawrence, Kansas: The Institute for Research in Learning Disabilities, 1980.

Silverman, R., & Zigmond, N. Definition of learning disabilities: A point of view. Prise Reporter, Fall, 1977.

Siperstein, G. N., Bopp, M.J., & Bak, J. J. Social status of learning disabled children. RIEP-Print No. 100. Cambridge, Mass.: Research Institue for Educational Problems, Inc., 1977.

Zigmond, N. A prototype of comprehensive services for secondary students with learning disabilities. Learning Disability Quarterly, 1978, 1, 39-49.

Zigmond, N., & Brownlee, J. Social skills training for adolescents with learning disabilities. Exceptional Educational Quarterly, 1980, 1, 87-93.

Acknowledgements

The process of data collection in a study as large as the Epidemiology Study is a complex one. Many research assistants spend numerous hours searching through school files, contacting teachers and parents, testing students, and scoring tests. The assistance of these individuals is gratefully acknowledged. In particular, the following individuals made major contributions to the procedures and communications with the school districts and with school personnel: Pegi Denton, Bob LaGarde, Patty Lee, Tes Mehring, Sue Nolan, John Schmidt, and Alice Vetter.

TABLE 1

GOING SOMEWHERE WITH A FRIEND WHO ASKS YOU

Youth Question: About how often do you do the following activity during your free time? "Go somewhere with a friend who asks you to go."

| | |
|---|---|
| Never | 0 |
| 1-2 times a year | 1 |
| Once a month | 2 |
| 2-3 times a month | 3 |
| Once a week | 4 |
| 2-3 time a week | 5 |
| Daily | 6 |

| | LD | LA | NA | Overlap |
|---|---|---|---|---|
| Youth Response | $\bar{X}$ = 4.476<br>SD = 1.557<br>n = 233 | $\bar{X}$ = 4.923<br>SD = 1.264<br>n = 221 | $\bar{X}$ = 4.745<br>SD = 1.067<br>n = 212 | LD/LA: No<br>LD/NA: Yes<br>LA/NA: Yes<br>F = 6.6104<br>p ≤ .001 |

TABLE 2

ASKING OTHER STUDENTS TO GO SOMEWHERE

Parent Question: About how often does your son/daughter do the following during free time (evenings, weekends)? "Asks other youth(s) to go someplace with him/her."

| | |
|---|---|
| Never | 0 |
| 1-2 times a year | 1 |
| Once a month | 2 |
| 2-3 times a month | 3 |
| Once a week | 4 |
| 2-3 times a week | 5 |
| Daily | 6 |

| | LD | LA | NA | Overlap |
|---|---|---|---|---|
| Youth Response | $\bar{X}$ = 3.648<br>SD = 1.576<br>n = 159 | $\bar{X}$ = 4.213<br>SD = 1.398<br>n = 141 | $\bar{X}$ = 3.966<br>SD = 1.267<br>n = 179 | LD/LA: No<br>LD/NA: Yes<br>LA/NA: Yes<br>F = 6.0443<br>p ≤ .003 |

TABLE 3

HANGING AROUND THE NEIGHBORHOOD WITH FRIENDS

Youth Question: About how often do you do the following activity during your free time? "Hang around the neighborhood with other kids."

| | |
|---|---|
| Never | 0 |
| 1-2 times a year | 1 |
| Once a month | 2 |
| 2-3 times a month | 3 |
| Once a week | 4 |
| 2-3 times a week | 5 |
| Daily | 6 |

| | LD | LA | NA | Overlap |
|---|---|---|---|---|
| Youth Response | $\bar{X}$ = 3.619<br>SD = 2.363<br>n = 231 | $\bar{X}$ = 3.734<br>SD = 2.213<br>n = 218 | $\bar{X}$ = 1.519<br>SD = 1.906<br>n = 212 | LD/LA: Yes<br>LD/NA: No<br>LA/NA: No<br>F = 70.8770<br>p ≤ .001 |

TABLE 4

HANGING AROUND WITH FRIENDS

Youth Question: One the average, how often do you take part in the following activity? "Just hanging around with friends."

| | |
|---|---|
| Never | 0 |
| 1-2 times a year | 1 |
| Once a month | 2 |
| 2-3 times a month | 3 |
| Once a week | 4 |
| 2-3 times a week | 5 |
| Daily | 6 |

| | LD | LA | NA | Overlap |
|---|---|---|---|---|
| Youth Response | $\bar{X}$ = 5.276<br>SD = 1.024<br>n = 225 | $\bar{X}$ = 5.394<br>SD = .926<br>n = 218 | $\bar{X}$ = 4.887<br>SD = 1.115<br>n = 204 | LD/LA: Yes<br>LD/NA: No<br>LA/NA: No<br>F = 14.0842<br>p ≤ .0001 |

26

TABLE 5

HAVING FRIENDS TO YOUR HOUSE

Youth Question: About how often do you do the following activity during your free time? "Have a friend over to your house."

| | |
|---|---|
| Never | 0 |
| 1-2 times a year | 1 |
| Once a month | 2 |
| 2-3 times a month | 3 |
| Once a week | 4 |
| 2-3 times a week | 5 |
| Daily | 6 |

| | LD | LA | NA | Overlap |
|---|---|---|---|---|
| Youth Response | $\bar{X}$ = 4.292<br>SD = 1.710<br>n = 233 | $\bar{X}$ = 4.480<br>SD = 1.491<br>n = 221 | $\bar{X}$ = 3.629<br>SD = 1.417<br>n = 213 | LD/LA: Yes<br>LD/NA: No<br>LA/NA: No<br>F = 18.0185<br>p ≤ .0001 |

TABLE 6

AGE OF CLOSEST FRIEND

Youth Question: "How old is your closest friend?"

| | LD | LA | NA | Overlap |
|---|---|---|---|---|
| Youth Response | $\bar{X}$ = 16.769<br>SD = 5.331<br>n = 234 | $\bar{X}$ = 15.668<br>SD = 2.175<br>n = 217 | $\bar{X}$ = 17.047<br>SD = 2.540<br>n = 213 | LD/LA: Yes<br>LD/NA: No<br>LA/NA: No<br>F = 8.4657<br>p ≤ .0002 |

TABLE 7

VARIABLES YIELDING NO SIGNIFICANT DIFFERENCES ON MEASURES OF PEER RELATIONSHIPS

| Youth Assessment Instrument | Question # | Variable # |
|---|---|---|
| Playing games with friends | 34e | 106 |
| Receiving phone calls from friends | 29d | 89 |
| Call friend on phone just to talk | 29c | 88 |
| Number of close friends you can talk to about important things | 28 | 85 |
| Ask a friend to go somewhere with you | 29g | 92 |
| **Parent Assessment Instrument** | | |
| Calls up other youths on phone to talk | 38c | 109 |
| Number of close friends | 3q | 114 |
| **Teacher Assessment Instrument** | | |
| How do peers relate to this youth | 3 | 25 |
| How does this youth relate to peers | 4 | 26 |

TABLE 8

SPORT SPECTATING WITH FRIENDS

Youth Question: On the average, how often do you take part in the following activity? "Sport spectating with friends."

| | |
|---|---|
| Never | 0 |
| 1-2 times a year | 1 |
| Once a month | 2 |
| 2-3 times a month | 3 |
| Once a week | 4 |
| 2-3 times a week | 5 |
| Daily | 6 |

| | LD | LA | NA | Overlap |
|---|---|---|---|---|
| Youth Response | $\bar{X}$ = 2.591<br>SD = 1.998<br>n = 232 | $\bar{X}$ = 3.194<br>SD = 1.920<br>n = 217 | $\bar{X}$ = 3.135<br>SD = 1.491<br>n = 207 | LD/LA: No<br>LD/NA: No<br>LA/NA: Yes<br>F = 7.4814<br>p ≤ .0006 |

TABLE 9

NUMBER OF ACTIVITES IN SCHOOL

Youth Question: In what kinds of school activities did you participate this year?

| | | | |
|---|---|---|---|
| a. | Sports between schools (e.g., varsity) | Yes | No |
| b. | Within school sports (intramurals) | Yes | No |
| c. | Sports related activities (Cheerleader, Pep Club) | Yes | No |
| d. | Band, orchestra, other musical activity | Yes | No |
| e. | Vocal groups | Yes | No |
| f. | School newspaper, yearbook | Yes | No |
| g. | Student government | Yes | No |
| h. | School plays | Yes | No |
| i. | Social events (e.g., dances, pep rallies) | Yes | No |
| j. | Junior achievement | Yes | No |
| k. | Future Farmers of America | Yes | No |
| l. | Vocational and Industrial Clubs | Yes | No |
| m. | Other clubs | Yes | No |

| | LD | LA | NA | Overlap |
|---|---|---|---|---|
| Youth Response | $\bar{X}$ = 1.494<br>SD = 1.643<br>n = 233 | $\bar{X}$ = 1.563<br>SD = 1.523<br>n = 222 | $\bar{X}$ = 3.695<br>SD = 1.915<br>n = 213 | LD/LA: Yes<br>LD/NA: No<br>LA/NA: No<br>F = 118.3638<br>p ≤ .00001 |

TABLE 10

HOURS/WEEK SPENT IN SCHOOL ACTIVITIES

Youth Question: "About how many hours do you spend each week kinds of activites?"

| | LD | LA | NA | Overlap |
|---|---|---|---|---|
| Youth Response | $\bar{X}$ = 2.843<br>SD = 4.792<br>n = 216 | $\bar{X}$ = 5.678<br>SD = 5.429<br>n = 205 | $\bar{X}$ = 8.075<br>SD = 6.610<br>n = 200 | LD/LA: Yes<br>LD/NA: No<br>LA/NA: No<br>F = 50.8165<br>p ≤ .00001 |

TABLE 11

PARENT REPORT: STAYING FOR ACTIVITIES AFTER SCHOOL

Parent Question: About how often does your son/daughter engage in the following activity after school? "Staying after school for school activities."

| | |
|---|---|
| Never | 0 |
| 1-2 times a year | 1 |
| Once a month | 2 |
| 2-3 times a month | 3 |
| Once a week | 4 |
| 2-3 times a week | 5 |
| Daily | 6 |

| | LD | LA | NA | Overlap |
|---|---|---|---|---|
| Parent Response | $\bar{X}$ = 1.686<br>SD = 1.813<br>n = 156 | $\bar{X}$ = 1.812<br>SD = 1.741<br>n = 138 | $\bar{X}$ = 4.083<br>SD = 1.598<br>n = 181 | LD/LA: Yes<br>LD/NA: No<br>LA/NA: No<br>F = 104.5830<br>p $\leq$ .00001 |

TABLE 12

NUMBER OR OUT-OF-SCHOOL ACTIVITIES

Youth Question: In what kinds of out-of-school activities do you take part this year?

| | | | |
|---|---|---|---|
| a. | Boy/Girl Scouts | Yes | No |
| b. | Explorers | Yes | No |
| c. | Boy's Club | Yes | No |
| d. | YMCA/YWCA | Yes | No |
| e. | 4-H | Yes | No |
| f. | Community Service Groups (e.g., Candystripers) | Yes | No |
| g. | Church or religious groups | Yes | No |
| h. | Taking lessons | Yes | No |
| i. | Others | Yes | No |

| | LD | LA | NA | Overlap |
|---|---|---|---|---|
| Youth Response | $\bar{X}$ = .877<br>SD = 1.125<br>n = 122 | $\bar{X}$ = .829<br>SD = 1.143<br>n = 111 | $\bar{X}$ = 1.479<br>SD = 1.197<br>n = 211 | LD/LA: Yes<br>LD/NA: No<br>LA/NA: No<br>F = 15.9896<br>p $\leq$ .0000 |

TABLE 13

PARENT-REPORT: PARTICIPATION IN OUT-OF-SCHOOL ACTIVITIES

Parent Question: About how often does your son/daughter engage in the following activities after school? "Participating in out-of-school clubs or activities."

| | |
|---|---|
| Never | 0 |
| 1-2 times a year | 1 |
| Once a month | 2 |
| 2-3 times a month | 3 |
| Once a week | 4 |
| 2-3 times a week | 5 |
| Daily | 6 |

| | LA | LD | NA | Overlap |
|---|---|---|---|---|
| Parent Response | $\bar{X}$ = 1.639<br>SD = 1.957<br>n = 155 | $\bar{X}$ = 1.717<br>SD = 1.971<br>n = 138 | $\bar{X}$ = 3.123<br>SD = 1.744<br>n = 179 | LD/LA: Yes<br>LD/NA: No<br>LA/NA: No<br>F = 32.8761<br>p $\leq$ .00001 |

TABLE 14

INVOLVEMENT IN MECHANICAL ACTIVITIES

Youth Question: On the average, how often do you take part in the following activity? "Mechanical activities (e.g., fixing things, auto repair, building things by yourself)."

| | |
|---|---|
| Never | 0 |
| 1-2 times a year | 1 |
| Once a month | 2 |
| 2-3 times a month | 3 |
| Once a week | 4 |
| 2-3 times a week | 5 |
| Daily | 6 |

| | LD | LA | NA | Overlap |
|---|---|---|---|---|
| Youth Response | $\bar{X}$ = 3.361<br>SD = 2.345<br>n = 233 | $\bar{X}$ = 3.373<br>SD = 2.155<br>n = 220 | $\bar{X}$ = 1.929<br>SD = 1.856<br>n = 210 | LD/LA: Yes<br>LD/NA: No<br>LA/NA: No<br>F = 32.4918<br>p ≤ .00001 |

TABLE 15

PLEASURE READING

Youth Question: On the average, how often do you take part in the following activity? "Reading for pleasure by yourself."

| | |
|---|---|
| Never | 0 |
| 1-2 times a year | 1 |
| Once a month | 2 |
| 2-3 times a month | 3 |
| Once a week | 4 |
| 2-3 times a week | 5 |
| Daily | 6 |

| | LD | LA | NA | Overlap |
|---|---|---|---|---|
| Youth Response | $\bar{X}$ = 2.704<br>SD = 2.217<br>n = 233 | $\bar{X}$ = 2.571<br>SD = 2.196<br>n = 219 | $\bar{X}$ = 3.775<br>SD = 1.830<br>n = 209 | LD/LA: Yes<br>LD/NA: No<br>LA/NA: No<br>F = 21.2240<br>$p \leq .0001$ |

TABLE 16

TIME SPENT DOING HOMEWORK

Youth Question: How much time do you spend doing homework each night on the average?

| | |
|---|---|
| No time | 0 |
| Less than 15 minutes | 1 |
| Between 15 and 30 minutes | 2 |
| Between 30 and 60 minutes | 3 |
| Between 1 and 2 hours | 4 |
| Between 2 and 3 hours | 5 |
| More than 3 hours | 6 |

| | LD | LA | NA | Overlap |
|---|---|---|---|---|
| Youth Response | $\bar{x}$ = 1.862<br>SD = 1.585<br>n = 234 | $\bar{x}$ = 2.179<br>SD = 1.396<br>n = 222 | $\bar{x}$ = 2.753<br>SD = 1.425<br>n = 215 | LD/LA: Yes<br>LD/NA: No<br>LA/NA: No |

F = 10.6342

$p < .0001$

TABLE 17

TIME SPENT DOING HOMEWORK

Parent Question: How much time does your son/daughter spend on homework each night on the average?

| | |
|---|---|
| No time | 0 |
| Less than 15 minutes | 1 |
| Between 15 and 30 minutes | 2 |
| Between 30 minutes and 60 minutes | 3 |
| Between 1 and 2 hours | 4 |
| Between 2 and 3 hours | 5 |
| More than 3 hours | 6 |

| | LD | LA | NA | Overlap |
|---|---|---|---|---|
| Parent Response | $\bar{x}$ = 2.177<br>SD = 1.341<br>n = 158 | $\bar{x}$ = 2.065<br>SD = 1.366<br>n = 138 | $\bar{x}$ = 3.088<br>SD = 1.288<br>n = 181 | LD/LA: Yes<br>LD/NA: No<br>LA/NA: No |

F = 29.7427

$p < .0001$

TABLE 18

STAYING HOME AND ENTERTAINING YOURSELF

Youth Question: About home often do you do the following activity during your free time? "Stay home and entertain self?

| | |
|---|---|
| Never | 0 |
| 1 - 2 times a year | 1 |
| Once a month | 2 |
| 2 - 3 times a month | 3 |
| Once a week | 4 |
| 2 - 3 times a week | 5 |
| Daily | 6 |
| More than 3 times a day | 7 |

| | LD | LA | NA | Overlap |
|---|---|---|---|---|
| Youth Response | $\bar{x}$ = 3.761<br>SD = 2.258<br>n = 233 | $\bar{x}$ = 3.712<br>SD = 2.051<br>n = 222 | $\bar{x}$ = 4.323<br>SD = 1.516<br>n = 213 | LD/LA: Yes<br>LD/NA: No<br>LA/NA: No |

F = 6.5464

$p < .0015$

TABLE 19

TIME SPENT WATCHING TELEVISION

Youth Question: About how much time do you spend watching T.V. each day on the average?

| | |
|---|---|
| None | 0 |
| Less than 30 minutes | 1 |
| Between 30 and 60 minutes | 2 |
| Between 1 and 2 hours | 3 |
| Between 2 and 3 hours | 4 |
| Between 3 and 4 hours | 5 |
| More than 4 hours | 6 |

| | LD | LA | NA | Overlap |
|---|---|---|---|---|
| Youth Response | $\bar{x}$ = 4.034<br>SD = 1.636<br>n = 234 | $\bar{x}$ = 3.715<br>SD = 1.620<br>n = 221 | $\bar{x}$ = 2.667<br>SD = 1.469<br>n = 213 | LD/LA: Yes<br>LD/NA: No<br>LA/NA: No |

F = 45.0917

$p < .0001$

TABLE 20

HANGING AROUND THE NEIGHBORHOOD

Parent Question: About how often does your son/daughter engage in the following activities after school? "Hanging around the neighborhood."

| | |
|---|---|
| Never | 0 |
| 1 - 2 times a year | 1 |
| Once a month | 2 |
| 2 - 3 times a month | 3 |
| Once a week | 4 |
| 2 - 3 times a week | 5 |
| Daily | 6 |

| | LD | LA | NA | Overlap |
|---|---|---|---|---|
| Parent Response | $\bar{x}$ = 3.662<br>SD = 2.380<br>n = 151 | $\bar{x}$ = 3.912<br>SD = 2.144<br>n = 137 | $\bar{x}$ = 1.164<br>SD = 1.875<br>n = 171 | LD/LA: Yes<br>LD/NA: No<br>LA/NA: No |

F = 81.3795

$p < .0001$

TABLE 21

HOURS PER WEEK SPENT IN SCHOOL ACTIVITIES

Youth Question: About how many hours do you spend each week in these kind of school activities?

Sports between schools (e.g., Varsity, Jr. Varsity
Within school sports (intramurals)
Sports related activities (cheerleader, pep club, twirler, drill team)
Band, orchestra, or other group instrumental music activity
Vocal groups (chorus, etc.)
School newspaper, yearbook, or other publication
Student government (e.g., student council representative, student council officer, class officer)
School plays
Social events (e.g., homecoming dance, pep rallies, school proms)
Junior Achievement
Future Farmers of America (FFA)
Vocational and Industrial Clubs of America (VICA)
Clubs (if yes, list below)

_____

_____

| | LD | LA | NA | Overlap |
|---|---|---|---|---|
| Youth Response | $\bar{x}$ = 2.843<br>SD = 4.792<br>n - 216 | $\bar{x}$ = 3.678<br>SD = 5.429<br>n = 205 | $\bar{x}$ = 8.075<br>SD = 6.610<br>n = 200 | LD/LA: Yes<br>LD/NA: No<br>LA/NA: No |

F = 50.8165

p < .0001